ING HUA FU MARINE LINE SDN BHD A

v.

VITACHEM (M) SDN BHD & ANOR

HIGH COURT MALAYA, KUALA LUMPUR B
NALLINI PATHMANATHAN J
[ADMIRALTY IN REM NO: 27-43-11-2011]
30 JANUARY 2013

TORT: *Negligence - Carriage of goods by sea - Sinking of vessel - Loss and damage - Liability - Claim by owner of vessel against shipper and freight forwarder - Causation - Whether first defendant's cargo of agro-chemicals had caused fire that led to sinking of vessel - Whether plaintiff had known or should have known of 'dangerous' nature of cargo - Whether plaintiff had undertaken contractual risk of shipment - Whether Hague Rules applied - Whether defendants negligent* C D

AGENCY: *Agent - Freight forwarder - Disclosed principal - Whether second defendant jointly and severally liable for negligence of first defendant*

EVIDENCE: *Expert evidence - Conflicting expert evidence - Whether plaintiff's expert evidence was more credible - Whether defendant's expert witness was marginally less independent than expected of expert witness* E

The first defendant had shipped a cargo of agro-chemical products on board the plaintiff's vessel, the Ing Hua Fu No. 9 ('the vessel'), at the Penang Port for delivery to its buyers in Miri. On the bill of lading ('B/L'), the cargo was described as 'agro-chemicals' which were 'shipped on deck at shipper's risk'. The second defendant was the forwarding agent appointed by the first defendant to arrange for the shipment of the cargo. After the loading of the cargo in Penang had been completed, the vessel sailed to Port Klang to load further cargos. While the loading operation was being carried out, a member of the crew saw sparks originating from the location where the pallets of agro-chemicals were stowed. This was shortly followed by a fire and a very loud explosion. Shortly after the explosion, the ship sank bow or forward first. The lapse of five or seven minutes between the fire and the explosion afforded sufficient time for the crew members and all others on board the vessel to escape. The plaintiff as owner of the vessel and carrier of the cargo claimed against both the first and second defendants for all the losses it suffered as a F G H I

result of the explosion and sinking of its vessel. The plaintiff's claim was founded on negligence, or bailment, or a breach of art. IV r. 6 of the Hague Rules as applied under the Carriage of Goods by Sea Act 1950 ('the Act'). The plaintiff contended that it was the first defendant's cargo of agro-chemicals that had caused the fire which led to the sinking of the vessel and the attendant losses. The plaintiff's case against the second defendant was premised on a breach of warranty given by the agent or alternatively in the law of agency. The defendants wholly denied liability for the plaintiff's losses and claimed that since they had provided sufficient information pertaining to the nature and characteristics of the cargo to the plaintiff, the latter had knowledge and had consented to the carriage of such 'dangerous' cargo on board its vessel. Accordingly, it was the defendants' contention that no indemnity was available to the plaintiff as it undertook the contractual risk of the shipment. The first defendant also maintained that the cause of the fire and explosion could not be attributed to its cargo of agro-chemicals.

Held (allowing plaintiff's claim against the first defendant with costs of RM80,000 to be borne by both defendants in equal parts):

(1) Although the cause of the explosion was in dispute, based on the evidence of the plaintiff's expert witness and the eye-witness account of the plaintiff's crew member, the agro-chemicals were directly related to the explosion. The eye-witness was a truthful witness and there was no reason to doubt his credibility. It followed from his evidence that the sparks and subsequent fire were directly related to or consequential upon some physical and chemical reaction relating to the defendant's cargo. The plaintiff's expert found, in summary, that the dominant cause of the fire and explosion was the manner in which the defendant's cargo had been packed together and stowed. Although the defendant's expert and sole witness was dismissive of the plaintiff's expert opinion and disagreed with her conclusion, he proffered no alternative explanation as to the cause, maintaining that the cause was unknown. (paras 49-51 & 54)

(2) The plaintiff's expert witness was an independent witness whereas the defendant's expert witness, who was also the technical manager of the first defendant, was marginally less

independent than expected of an expert witness. Hence, it appeared that the plaintiff's expert evidence was more credible. A conflict could arise in this situation as the expert for the first defendant would find it difficult to concede blame when it came to his employer, especially when he was the primary officer in charge of operations such as packaging and safety data. Further, based on the evidence of its expert witness, the plaintiff had succeeded in discharging its burden of proving causation. The onus then shifted to the first defendant who was unable to rebut the same but simply offered a plea of cause not proved. It thus followed that the plaintiff's expert evidence on causation was to be preferred. (paras 54, 76 & 77)

(3) The first defendant had contravened its own safety standards in relation to packing and segregation, by paying scant or no attention to the safety information contained in the Material Safety Data Sheet ('MSDS') it had produced. A perusal of the segregation table showed that the chemicals contained in the first defendant's cargo ought to have been packed separately as well as placed apart from each other on the top deck of the vessel but it had failed to comply with the explicit provisions of the MSDS. (paras 64, 70, 74, 75 & 77)

(4) The plaintiff had a contract of carriage with the first defendant as evidenced by the plaintiff's B/L. The Hague Rules would apply to this contract by virtue of s. 2 of the Act. The relevant provision of the Hague Rules would be art. IV r. 6 of Sch. 1 of the Act. Under art. IV r. 6 of Sch. 1 of the Act, the plaintiff was not required to prove or show any deliberate act of negligence or fault on the part of the shipper, in order to claim an indemnity unless it knew or should have known of the dangerous nature of the cargo it was carrying. (paras 78-81, 84 & 85)

(5) Although the plaintiff's precautions were appropriate for the kind of goods described in the contract, namely agro-chemicals, they were insufficient for the particular goods shipped, namely the mixture of sodium chlorate together with amines and Malaxion. Thus, the liability for the loss and damage suffered under art. IV r. 6 of Sch. 1 of the Act fell squarely on the first defendant because the plaintiff could not be said to have

received enough warning, or be reasonably expected to have known of the particular characteristics of the chemicals and more particularly the effect of packaging the same together. In such circumstances, the plaintiff could not have agreed to bear the risk of this particular hazard and it had thus clearly established liability under art. IV r. 6 of Sch. 1 of the Hague Rules. (paras 88-93 & 114)

(6) The first defendant was aware or ought to have been fully aware of the dangers posed by the cargo, as it was the manufacturer of the same. As such, it ought to have alerted the plaintiff to the dangers thereby affording the plaintiff the opportunity take the requisite precautions or of refusing to take the cargo. Since the first defendant failed to do so, it followed that it was liable for all damages and expenses directly or indirectly arising from the shipment. (paras 97 & 98)

(7) The relationship between the first defendant and second defendant was one of principal and agent respectively. It was evident that the second defendant relied entirely on the shipper and made no independent assessment of the risk. At the same time, there was a warranty given by the second defendant directly to the plaintiff, which could form the basis for the personal liability of the second defendant. Hence, the shipper was wholly liable to the carrier for all damages suffered. The second defendant as agent was exempt from liability on the basis of the principle that where the principal was disclosed, liability accrues to him rather than the agent. Accordingly, the plaintiff was entitled to judgment against the first defendant for all losses and damages suffered by it as a consequence of the sinking of the vessel with damages to be assessed. (paras 121, 126, 129-135)

Case(s) referred to:

Bamfield v. Goole and Sheffield Transport Co Ltd [1910] 2 KB 94 ***(refd)***

Brass v. Maitland [1856] 6 E & B 470 ***(dist)***

Donoghue v. Stevenson [1932] AC 562 ***(foll)***

Great Northern Railway Co v. LEP Transport and Depository Ltd [1922] 2 KB 742 ***(dist)***

Heath Steele Mines Ltd v. The Erwin Schroder [1970] Ex CR 426 ***(refd)***

Micada Compania Naviera SA v. Texim [1968] 2 Lloyd's Rep 57 ***(refd)***

Stag Line Ltd v. Foscolo Mango & Co Ltd [1931] All ER Rep 666 ***(refd)***

The 'Athanasia Comninos' [1990] 1 Lloyd's Rep 277 ***(refd)***

The Fiona [1993] 1 Lloyd's Rep 257 ***(refd)***
The Giannis NK [1996] 1 Lloyd's Rep 577 ***(refd)***
The Giannis NK [1998] 1 Lloyd's Rep 337 ***(refd)***
The Sunrise Crane [2004] 1 SLR 300 ***(refd)***
Trengganu Forest Products Sdn Bhd v. Cosco Container Lines & Anor [2007] 5 CLJ 720 HC ***(refd)***

Legislation referred to:
Carriage of Goods by Sea Act 1950, s. 2
Contracts Act 1950, s. 186
Hague Rules, art. III r. 1, art. IV rr. 3, 6

Other source(s) referred to:
Scrutton on Charterparties and Bills of Lading, 125th edn, p 445

For the plaintiff - Philip Teoh; M/s Philip Teoh & Co
For the 1st defendant - Jeremy Joseph (Vinodhini Samuel with him); M/s Joseph & Partners
For the 2nd defendant - T Jegadeeson; M/s Jegakumar & Partners

Reported by Vani Krishnan

JUDGMENT

Nallini Pathmanathan J:

Introduction

[1] Between about 4.20pm and 4.30pm on 18 October 2008, an explosion took place on the Ing Hua Fu No. 9 ('the vessel'), while cargo was being loaded on the vessel at Wharf No. 7, Southpoint, Port Klang. The explosion had been preceded by some sparks, which became thick smoke within seconds, then fire and subsequently an explosion within five to seven minutes. The explosion which resulted was so great that the crew abandoned ship. Shortly after the explosion the bow of the ship started to sink. Within a time period of ten minutes the entire vessel sank. No lives were lost, nor injuries sustained, but widespread damage was caused to the vessel and the cargo.

[2] The parties to the dispute are the plaintiff which is the owner of the vessel and the carrier of cargo under bill of lading No. PGM206 ('B/L'). The first defendant, Vitachem (M) Sdn Bhd, the shipper is in the business of manufacturing and trading agricultural chemicals and is the shipper under the B/L of a

consignment of dangerous goods comprising agro-chemical products. The second defendant are the shipper's forwarding agents, appointed by the shipper to arrange for shipment of the cargo.

[3] The plaintiff ('the carrier') claims against both the first defendant, Vitachem (M) Sdn Bhd ('the shipper'), and the second defendant freight forwarders, Syarikat Penghantaran dan Pengangkutan Heng Sdn Bhd ('the forwarders'), all losses suffered as a result of the explosion and sinking of their vessel.

[4] The carrier maintains that such losses were the result and consequence of the shipper's cargo of agrochemicals, containing *inter alia*, sodium chlorate, which is a strong oxidising agent. As an oxidising agent, sodium chlorate is incompatible with organophosphates and amines (which are organic chemicals), wood and combustible materials such as wood, leather and cotton. The latter materials can spontaneously combust after being splashed with sodium chlorate solution and then allowed to dry. Such mixtures are likely to be ignited by heat and friction. The carrier maintains that it was the cargo itself that caused the fire that led to the sinking of the vessel and the attendant losses.

[5] The carrier further maintains that it did not know that the shipper's cargo was dangerous in this aspect. As such, not knowing the nature and character of the goods to be shipped, it did not consent to such dangerous goods being carried on board the vessel.

[6] In summary the carrier brings this action against both the shipper and forwarding agent as being jointly and severally liable to it for all losses incurred, on the basis of negligence, or bailment, or a breach of art. IV r. 6 of the Hague Rules as applied under the Carriage of Goods by Sea Act 1950.

(As against the forwarding agent, the carrier premises its cause of action on a breach of warranty given by the agent. Additionally the carrier contends that the forwarding agent is jointly and severally liable with the shipper under the law of agent and principal).

[7] The shipper, Vitachem (M) Sdn Bhd, on the other hand, wholly denies liability for the carrier's losses. The shipper maintains that its cargo was a consignment of agro-chemical products which is widely known in the shipping industry as being routinely classified or categorised as dangerous cargo requiring special

packing, handling and stowage under the International Maritime Dangerous Goods Code ('IMDG Code'). The shipper further maintains that both it, and the forwarding agent, Heng communicated to the carrier *vide* its agent one Syarikat Soo Hup Seng Sdn Bhd all relevant documents for the shipment including the packing list, invoice and significantly the dangerous cargo declarations to the Penang Port Commission which they contend describe the nature and characteristics of the cargo to be shipped. The shipper maintains that it complied with SOLAS 1974 Convention requirements and the IMDG Code to warn or advise the carrier of fundamental information relating to the hazards of the goods. The shipper is supported in this aspect by the forwarder.

[8] In other words the shipper and the forwarding agent maintain that the carrier was accorded sufficient information pertaining to the nature and characteristics of the cargo, such that it did have knowledge and therefore consented to the carriage of such 'dangerous' cargo on board the vessel. Accordingly the carrier maintains that where such dangerous cargo is carried with the requisite knowledge and consent of the nature and characteristics of such cargo, no indemnity is available to the carrier, as it was at all times aware or ought to have been aware of the risks it contracted to undertake. In other words, the carrier undertook the contractual risk of the shipment.

[9] Further the shipper also maintains that the cause of the fire and explosion is unknown and cannot therefore be attributed to its cargo of agro-chemicals. This then sets out in outline the nature of the dispute between the parties.

The Trial

[10] The trial of the shipowner's claim was heard over a period of six days, with testimony from eight witnesses. The plaintiffs called five witnesses, namely one Mr. Yong Ing Hing, the Managing Director of the shipowners, PW-1 ('Yong'); Hajeh Anak Luka, the crane operator and member of crew who was the sole witness of fact, PW-2 ('Luka'); Tan Ah Lee the Managing Director of Soo Hup Seng, PW-3 ('Tan Ah Lee'); Aini Ling, the expert witness who is a mathematician, chemist and certified fire investigator with experience spanning some 700 investigations relating to fire and explosions, PW-4 ('the plaintiff's expert'); and Lim Eng Ben, PW-5 who took photographs of the vessel after the incident.

[11] The first defendant shippers, Vitachem (M) Sdn Bhd called one witness namely the Technical Manager and chemist of the shipper, Chan Lin Heng, DW-1 ('Chan') who was therefore both a witness of fact in relation to the six pallets of agrochemicals, as well as an expert chemist.

[12] The second defendant forwarders, called Bong Yong Chuan the Managing Director of the forwarders, DW-2, ('Bong'), one Puan Chek Kechik Jaafar, the official in charge of the clearance of dangerous goods from the Penang Port Commission, DW-3 ('Puan Kechik'), Ms. Celine Bong or Bong Szu Chin, the Operations Executive of the forwarders who is also the Managing Director's sister, DW-4 ('Celine') and finally Mohamad Fazil bin Mohamed Ali Jinnah, a despatch clerk at the forwarders who confirmed labelling and loading procedures, DW-5 ('Fazil').

Salient Facts

[13] From the evidence of these various witnesses, it transpires if that is not in dispute that pursuant to bill of lading No. PGM206 ('B/L'), the shipper shipped the following cargo of agrochemicals on board the vessel at Penang Port for delivery to their buyers in Miri:

S/No.	Name of Chemical	UN No.	IMO Class No
1.	CH Malaxion 84.0	3082	9
2.	Dianet	3017/3018	6.1
3.	CH Amine 48	2734/2735	8
4.	CH Amine 60	2734/2735	8
5.	CH Malaxion 570 E	3082	9
6.	CH Fention 50	3017/3018	6.1.
7.	Vita Dimethoate	3017/3018	6.1.
8.	CH Sodium Chlorate	1495	5.1.

[14] These chemical products bear different characteristics identified by the UN and IMO Class numbers. The B/L described the cargo as '6 pallets said to contain 185 packages (30 bags and 155 cartons) AgroChemicals'. The shipment was arranged by the forwarding agent, Heng with the carrier's Penang ship agents, Syarikat Perkapalan Soo Hup Seng Sdn Bhd ('Soo Hup Seng').

[15] The arrangement for the shipment was preceded however, by a telephone booking made by the shipper, Vitachem (M) Sdn Bhd with Soo Hup Seng on 13 October 2008. Soo Hup Seng then sought for and located space on the vessel, the Ing Hua Fu 9, to transport the shipper's goods to Miri. The shipper maintains that details of the cargo were given to Soo Hup Seng prior to 'space' being obtained on the vessel. Upon confirmation of the procurement of such space, Soo Hup Seng advised D1 of the name of the vessel, its date and time of arrival in port and other relevant details.

[16] Thereafter the shipper, having acquired these details from Soo Hup Seng, completed a dangerous goods declaration to the Penang Port Commission. This form is called the 'Advance Notification and Declaration of Packed and containerised Dangerous Goods for Conveyance/Handling at Penang Port Commission' or more shortly, DCN1.

[17] The shipper then specified the agro-chemicals sought to be transported setting out the technical name of the substance, properties and flash point, quantity and description of packing, IMO class, UN Number as well as the weight of the cargo. It is pertinent that item 6 of the dangerous goods declaration or DCN1 entailed the shipper to inform or notify of 'description of any known defect, undue hazard and suggested safe handling method'. No entry was included for this item by the shipper.

[18] The shipper contends that having completed the DCN-1 form the same was faxed to Soo Hup Seng and the forwarders. This is disputed by Soo Hup Seng, who maintain that DCN1 was not faxed to them by the shippers. They deny receipt of the same. A perusal of the DCN1 form produced by the shippers discloses a notation on the right hand side top corner which states 'Fax to Heng Forwarding'. There is no mention of Soo Hup Seng. In any event it is not in dispute that DCN1 was faxed to the forwarders on 13 November 2008.

[19] All further arrangements for shipment after the shipper had completed DCN1 was handled by the forwarders, Heng Forwarding, with Soo Hup Seng, the carrier's agent. The forwarder's duty was to prepare a customs declaration form, K3, and a further notification to the Penang Port Commission known as DCN2. DCN2 is a standard form containing the approval sought from the Penang Port Commission for the transportation of the dangerous goods and any other instructions pertaining to the goods. The forwarding agents declared the cargo as dangerous goods to the Penang Port Commission by submitting DCN2. DCN2 contains, *inter alia*, the following warranty by the forwarding agent to the commission:

> We hereby certify that all entries on this form are true and correct to the best of our knowledge and the contents of this consignment are accurately described by the proper shipping name, classified, packed, marked and labelled and are in proper condition for the transport by sea, land according to the applicable international and national government regulations.

[20] The international regulations governing the shipment of the cargo on board the vessel is the International Maritime Dangerous Goods Code ('IMDG Code') which forms a part of the International Convention for the Safety of Life at Sea (1974) ('SOLAS'). The code contains a Dangerous Goods List and lists many of the dangerous goods most commonly transported. Where a dangerous good is specifically listed by name in the list, it is to be transported in accordance with the provisions in the list which are appropriate for that dangerous good.

[21] In order to prepare the customs declaration form and DCN2, the forwarders procured the details they required relating to the carrier from Soo Hup Seng. They already had in their possession the packing list, invoice and DCN1 which had been transmitted to them by the shipper. Armed with this information, they then prepared DCN2 and transmitted DCN2 on-line to the Penang Port Commission for their approval.

[22] The forwarders maintain that they also transmitted these documents to Soo Hup Seng on 13 November 2008, but this is strongly disputed by Soo Hup Seng. The forwarders did not provide any facsimile confirmation to establish conclusively that they had in fact faxed these documents to Soo Hup Seng.

[23] The forwarders received the requisite approval from the Penang Port Commission on the same day, ie, on 13 November 2008. The Penang Port Commission had given its approval stating that the cargo fell within group 2 and required direct delivery and loading. According to the forwarder, it downloaded DCN2 and the customs approval and faxed the same to the shippers, as well as Soo Hup Seng. Again, Soo Hup Seng denies that any such documents were made available to it or faxed to it. There is no conclusive evidence that establishes that these documents were indeed faxed to Soo Hup Seng, save for oral evidence.

[24] It is Soo Hup Seng's position that they were only appraised of these documents and the precise contents of the cargo on 18 October 2008, after the explosion and sinking of the vessel. The forwarders however, also point out that Soo Hup Seng is linked to the on-line system with the Penang Port Commission and ought thereby to have been aware of the nature of the dangerous cargo sought to be shipped. Further the fact that the shipment was arranged by way of direct delivery to the vessel also indicated to Soo Hup Seng, it is contended, that the cargo was dangerous cargo.

[25] Soo Hup Seng's rebuttal is that it was only informed that the cargo sought to be shipped was agro-chemicals, and while they were aware that such cargo was 'dangerous' in so far as it was toxic, they were entirely unaware of its properties as an oxidising agent which could accelerate combustion, resulting in explosions. It is not in issue from the evidence that neither defendant gave any shipping or handling instructions.

[26] The vessel arrived at Penang Port on 16 October 2008. The forwarders were advised by Soo Hup Seng to deliver the shipper's cargo to Penang Port by 3pm on that day. The forwarders duly advised the shipper of these directions. The shipper's cargo arrived at the Butterworth Wharf where two of the forwarders' employees were present to facilitate loading onto the vessel. According to the forwarder's witness, one Mohamad Fazil bin Mohamed Ali Jinnah, he placed 'SPONTANEOUSLY COMBUSTIBLE' stickers to all the six pallets containing the cargo. He then claims that the cargo was inspected together with all requisite documents including DCN2, the packing list and shipping order whereupon the cargo was brought alongside the vessel. The chief officer was present and after the cargo had been

checked by him the cargo was 'marked'. This meant that the quantity and packing of the cargo as well as weight and size were checked. The cargo was accepted on board the vessel. The six pallets were then loaded onto the vessel on the starboard side at the bow or forward part of the main deck.

[27] The 496GT vessel was a cargo ship with a common hold having multiple hatches for stowage in addition to stowage areas on the main deck. The cargo carried by the vessel included steel components or building materials, electrical cables, fibre-reinforced cement boards, escalator parts, plastic bags, one unit of a backhoe loader/tractor, one trailer with a water pump and six pallets comprising thirty bags and 155 cartons of agro-chemicals. While most of the cargo was stowed inside the hold, the agro-chemicals, shipped by the first defendant, Vitachem (M) Sdn Bhd, and the trailer, were indicated on the stowage plan to have been shipped on deck. These six pallets and the trailer were at the time of the explosion on the forecastle of the main deck. Subsequently the epicentre of the explosion was found to be that part of the main deck where the six pallets of agro-chemicals had been stowed.

[28] Upon completion of loading, the forwarding agent issued a shipping instruction to Soo Hup Seng instructing Soo Hup Seng to issue a bill of lading.

[29] A clean bill of lading was issued on 18 October 2008, confirming that the cargo was shipped in apparent good condition. The bill of lading is consonant with the stowage plan in that it denotes that the six pallets were stored on deck. On the bill of lading the cargo is described as 'Agro Chemicals'. The bill of lading also specified "shipped on deck at shipper's risk".

[30] After loading of the cargo in Penang had been completed, the vessel sailed to Port Klang to load further cargo. It arrived at Southpoint, North Port at about 9.30 hours on 18 October 2008. The loading operation commenced at about 10am. There was no discharging operation. Four stevedores worked inside the hold with three hatches at the forward opened for the loading. A break was taken for lunch between 12 noon and 1pm. Loading resumed at 1pm with a coffee break at 3.30 to 4pm. Loading recommenced at 4pm.

[31] The plaintiff's case and as borne out by the available evidence is that a member of the crew of the vessel, one Hajeh Anak Luka, PW2 ('Luka') was operating a crane to load the vessel with cargo when he saw sparks just after the coffee break which ended at 4pm. He stated that the sparks originated from the location where the pallets of agro-chemicals were stowed. He testified that he saw three sparks, and subsequently thick smoke. This was followed by a fire within a few seconds. Luka estimated that about five to seven minutes after sighting the sparks, there was a very loud explosion. The time of the explosion was about 4.20 - 4.30pm on 18 October 2008. The vessel started to sink shortly after the explosion, bow or forward first. There was no death or injury reported as all the crew managed to escape, as Luka had alerted the crew to abandon the ship upon sighting the fire. The lapse of time of five to seven minutes between the fire and the explosion afforded sufficient time to the stevedores who were loading and other crew members to escape.

Causation

[32] The cause of the explosion is in dispute. The vessel was eventually refloated and taken to a shipyard for repair. Photographs were taken of the refloated vessel by surveyors at the wharf and the shipyard. This provided the most useful information from which the expert could begin to piece forensically, the cause or basis for the explosion. A diver's report at the location for an underwater survey and for an initial assessment of the vessel's condition on 21 October 2008 disclosed that there was a hole measuring a maximum of 6 feet in width that had been blown off. There was also a tear from the top of the side shell right to the flat bottom of the shell plating. On the starboard side a rupture or hole was found on the flat bottom plating with a maximum width of approximately five metres in length.

[33] The plaintiff's expert concluded from the collective evidence of the photographs, video evidence and divers' report that the epicentre of the explosion occurred on that part of the main deck where the pallets of agro-chemicals were stowed.

[34] There appears to be no reason to doubt her conclusion. She analysed that the manner of deformation of the edges around the ruptured or perforated part of the deck plate was consistent with an explosive force from above deck. The rupture or perforation of the deck plate was centred about the forward

starboard side. The rupture of the adjoining portion of the hull starboard vertical side shell was consistent with the venting of explosion pressure from the void beneath the ruptured deck plate. She also concluded from the divers report that the perforated area of the deck plate was consistent with the total area that would have been occupied by five to six standard size pallets. This was further corroborated by the stowage plan and information from the vessel's crew.

[35] The fact that the agrochemicals were directly related to the explosion is borne out by the eye-witness account of Luka, the crane driver who first saw sparks or fire from the location where the pallets of agro-chemicals were stowed.

[36] A perusal of the cargo manifests which discloses the nature of the rest of the cargo loaded at both Penang and Port Klang shows that such cargo was not susceptible to ignition and explosion in the event of a fire.

[37] I have listed at the outset the specific chemicals that were packed into the six pallets that were generally categorised as 'agrochemicals'. The term 'agrochemicals' is a generic term referring to various chemicals or chemical products used in agriculture. It would include for example pesticides, herbicides, insecticides and fungicides as well as synthetic or organic and natural fertilizers, hormones and other chemical growth agents.

[38] In the instant case the six pallets contained: CH Amine 60, CH Amine 48, CH Malaxion 84.0, CH Malazion 570E, CH Fenthion 50, Dianet, Vita Dimethoate and CH Sodium Chlorate.

[39] It is significant that these chemicals were described variously in different documents. In the packing list, the shipper set out the trade names as above, and also appended the chemical names of these various chemicals. In its invoice the shipper listed the trade names only. In the advance notification and declaration of dangerous cargo, the shipper set out the proper shipping name, UN number and the IMO class of the four types or categories of chemicals. However there were no trade names. This meant that by simply looking at the advance notification forms and comparing them with the invoice and packing list it would not be possible to correlate the chemical names to the trade names.

[40] And in the customs application form, the bill of lading and Mate's receipt the chemicals were merely designated or described as 'agrochemicals'. There was no further specification of the various chemicals, albeit by trade name or chemical name.

[41] The chemicals above were stored in six pallets made of wood. The liquid chemicals (all except the sodium chlorate were liquid) were in bottles, some plastic and some glass. Sodium chlorate was packed in bags. DW1, Chan Lin Heng who testified for the shippers, explained in detail the mode of packaging adopted. It appears from his evidence that the Malaxion, Dianet, Fenthion and Vita Dimethoate were packed in amber coloured glass bottles with outer paper cartons. Each batch is then plastic shrink wrapped before palleting. The amines were packed in high density polyethylene plastic bottles again with an outer paper carton before being shrink wrapped and then palleted. The sodium chlorate which was in 1kg bags were placed in carton boxes which were shrink wrapped and palleted, while the 50kg bags were shrink wrapped and then palleted. All the shrink wrapped chemicals were then palleted in six wooden pallets. Regrettably there was no evidence to verify this process of shipment.

[42] The pallets were stowed on deck as explained earlier and covered with canvas. The packing list indicated that two of the six pallets had a mix of different chemicals:

(a) Pallet no. 3 of the 6 pallets had a combination of various organophsophates, namely Malaxion, Fenthion, Dianet and Vita Dimethoate;

(b) Pallet no. 5 out of the 6 pallets, combined amines, which are from the chemical family of carboxylic acids, malaxion, an organophosphate, and sodium chlorate which is a strong oxidiser.

[43] It is this latter pallet, namely pallet no. 5, which gives rise to concern in relation to the fire and explosion, given that chemicals from various classes and different chemical families with different chemical properties were packed together.

The Evidence Of The Sole Eye-Witness To The Incident

[44] Luka was at the material time working as a crane operator and a crew member of the vessel. He had been employed there for about six months prior to the incident. His duties comprised

loading cargo on board the vessel, so he had to know the type and weight of the cargo. He stated that he was directed where to stow the shipper's cargo by the Chief Officer and he duly did so. The cargo was stowed on deck at the forward or bow of the vessel and covered with canvas. He maintained that he was not aware that the cargo was 'dangerous goods' cargo. The pallets were loaded on the 16 October 2008. In other words the explosion occurred some two days after loading, after the vessel had voyaged from Penang to Port Klang while stowed on deck and covered with canvas, being thus subject to heat and vibration and thereby friction.

[45] Luka testified that the agrochemicals were in pallets which were wrapped in plastic. He recalled that there were six pallets. When asked what labels he saw on the pallets he could only recall seeing one with a 'skull' sign, signifying toxicity.

[46] On 18 October 2008, loading work at Port Klang commenced as explained earlier. Luka carried out his work on the crane, loading cargo onto the vessel. He worked until lunchtime and then again until 3.30pm. He started work again after the break at around 4pm. Not long after that he recalled sighting three sparks that became thick smoke and then fire, all of which emanated from the shipper's cargo. He was in the cabin of the crane when he witnessed this.

[47] Luka stated that he stopped the engine of the crane and ran. He then placed the cargo in the cargo hold. He shouted out that the vessel was on fire - "kapal terbakar" and told all the crew to leave. He then jumped onto the wharf when he heard the loud explosion. He estimated the time between the spark and the explosion as being between 5 - 7 minutes.

[48] In the course of cross-examination, Luka explained that he had sighted the labelling from about 50 feet away and only seen the skull sign. He accepted that he could not see all sides of the pallet given his position in the cabin of the crane. However he confirmed that the cargo was covered with a canvas cloth. He was asked if he had placed any steel segregation between the cargo, given that the vessel was constantly in motion. Luka replied that that was not his function, as his job was only to load.

[49] With respect to the sighting of the sparks it was suggested to Luka that as he saw them, the cargo could not have been covered with canvas. Luka however maintained that he saw three sparks from the region of the shipper's cargo. When pressed further Luka maintained that he could not be sure whether the sparks were from within or outside. He was firm in maintaining that he saw those sparks.

[50] Having considered his evidence in toto, I find that Luka was consistent in his testimony and I found no reason to doubt his credibility. He is a truthful witness.

[51] It follows from his evidence that the entire sequence of events commenced with the sparks that he saw emanating from that part of the front main deck where the defendant's cargo had been stored. This in turn suggests that the sparks and the subsequent fire are directly related to or consequential upon some physical and chemical reaction relating to the defendant's cargo. This leads us neatly to the issue of causation. In this aspect both the plaintiff's expert, Aini Ling, PW-4 and the defendant's sole witness the Technical Manager and expert chemist, Chan Lin Heng testified. The plaintiff's expert found, in summary that the dominant cause of the fire and explosion was the manner in which the defendant's cargo had been packed together and stowed. Chan disagreed with this conclusion, but proffered no alternative explanation as to the cause, maintaining that the cause was unknown.

The Plaintiff's Expert

[52] The plaintiff's expert considered the effect of the packing of these various chemicals together and concluded that the organophosphates ought not to have been mixed with sodium chlorate. Neither should the acids have been packed together with the sodium chlorate. In essence she concluded that such packing together facilitated the subsequent explosion as these chemicals are inherently incompatible and ought not to be packed together. Any accidental spillage or even friction or heat, she postulated could result in an ignition which would become combustible by reason of the inherent accelerating and oxidising tendencies of sodium chlorate coupled with its incompatibility with the organophosphates and acids.

A **The Shipper's Expert and Sole Witness**

[53] Mr. Chan Lin Heng, DW1 for the shipper, who was both a witness of fact and an expert chemist for the shipper, maintained that there was no prohibition against the packing of B the foregoing chemicals together. He testified that all the products in the six pallets shipped by the shipper complied with internationally accepted transport requirements as per the International Maritime Organisation requirements as set out in the IMDG Code. He explained that the various chemicals fell within C various classes as prescribed or assigned under the IMDG Code for each class of products. The class of products were 5.1 for oxidising chemicals, namely sodium chlorate; 6.1 for poisonous or toxic products where Dianet, Fenthion and Vita Dimethoate, the organophosphates were categorised; 8 for corrosive products D where the amines were categorised and 9 for miscellaneous dangerous substances where Malaxion, an organophosphate was categorised. Various pictorial labels to indicate the nature of these goods was also annexed to the pallets according to him. He produced the various labels which indicated toxicity, oxidising E agent, flammability and maintained that all these labels were affixed on the pallets. The crane driver, Luka in his evidence could only recall the toxicity label on the pallet. In any event, the shipper's position was that the cargo was packed safely, securely and in line with IMDG regulations. This he maintained was sufficient to F caution any person handling the cargo that it is dangerous cargo.

[54] Chan was dismissive of the plaintiff's expert opinion. The expert postulated and testified that the explosion arose as consequence of the packing together of different chemicals G together in pallets 3 and 5, coupled with friction and/or heat. He maintained that although the products were toxic, they could not either by combination or themselves, self-ignite. He maintained that an explosion could only have occurred by intervention of an external factor for example friction which caused sparks or even a H light source like cigarette buds. He further maintained that the products could not have co-mingled because they were securely packed. Such mingling could only have occurred if damage was caused to the wooden pallets or inner or outer layer of packaging.

[55] Chan went further to state that the packing together of I amines, which are carboxylic acids and classified as 6.1, Malaxion an organophosphate classified as 9, and sodium chlorate an

oxidising agent classified as 5, did not contravene the IMDG code. He arrived at this conclusion, he stated, based on his expertise as a chemist and experience in dealing with these types of products for many years. He testified in this regard that there was no prohibition for class 9 and class 5.1 products to be packed together as borne out by the segregation table in the IMDG Code. In the course of cross-examination the plaintiff's expert agreed that goods classified in category 9 could indeed be stowed together with goods classified under 5.1. However she did not agree that Malaxion should in fact be designated in class 9. If Malaxion, an organophosphate like Fenthion, Dianet and Vita Dimethoate was categorised in class 6.1, it should, according to the IMDG Segregation Table, be packed and stowed 'away from' oxidising substances such as sodium chlorate.

[56] Chan however maintained in his evidence, that notwithstanding the express prohibition in the Segregation Table, there was nothing improper in packing together the CH Amine 48 from class 6.1 and the Sodium Chlorate falling within class 5.1. He testified that the shipper's formulation of the CH Amine 48 is an aqueous solution and therefore 'strictly speaking' does not fall within class 6.1 which actually refers to amines in the concentrated form and is above 95% concentration. Accordingly he maintained, that the CH Amine 48 did not comprise dangerous cargo and could be packed together with sodium chlorate. He further stated that they had classified CH Amine 48 as a dangerous good in the advance notification and declaration to the Penang Port Commission as a matter of 'extra precaution'. He concluded therefore that the packing of these two products was safe. They could not, in any event, he maintained have simply spontaneously ignited.

The Joint Statement Of The Experts

[57] From the foregoing it is apparent that both experts differed diametrically in their opinions. The plaintiff's expert was definite in her view that the packing of the chemicals in pallet no. 5 comprising organophosphates, acids and sodium chlorate had co-mingled, and with the effect of any ignition arising from friction or heat, had caused the explosion. Chan was equally firm that this was not possible. However he put forth no other possible cause. The shipper's stance throughout this case was that the cause was

unknown and that the burden of establishing causation lay wholly with the plaintiff. In short both defendants maintained that the cause of the explosion was not established.

[58] Both experts however were able to agree on the following issues and recorded a joint statement on the following terms:

(a) Sodium Chlorate is not self-combustible. It is a strong oxidant, ie, a source of oxygen which accelerates or aids fires;

(b) The experts agree that the precise mechanism or causation of the ignition is unknown;

(c) The plaintiff contends that the packing of the chemicals in Pallet No. 5 contributed to the ignition. The shipper does not agree that this is the case because it maintains that packing those particular chemicals together in one pallet is allowed under IMDG regulations.

(d) However apart from any issue of causation arising from having packed together these particular chemicals, the experts are agreed that the sodium chlorate in itself, if contaminated with organic substances and subjected to friction can cause a fire.

The Characteristics Of The Various Chemicals In Pallet No. 5

[59] Before determining which expert's evidence is to be preferred and the reasons for doing so, it is necessary to consider some background material facts pertaining to these chemicals. It is not in dispute that the sodium chlorate that was shipped was an inorganic salt, 99% in crystalline/powder form. Sodium chlorate is a strong oxidising agent. While it does not self-combust or burn or ignite of itself, it can decompose and release oxygen in a fire and result in violent explosions. When mixed with different chemical substances, or if it comes into contact with them, sodium chlorate may decompose rapidly. When in contact or mixed with organic materials this can result, with ignition, in an explosion.

[60] The Health and Safety at Work executive summary on the properties of sodium chlorate specifies under 'hazards' as follows:

> Although sodium chlorate will not burn when heated in a fire, it can decompose and release oxygen, increasing the flame temperature and the speed of burning. There have been a number of incidents in warehouses where sodium chlorate has been

involved in fires resulting in violent explosions, some of which have caused considerable damage to the warehouse and adjacent buildings.

Sodium chlorate may decompose rapidly if it is mixed with different chemical substances or comes into contact with them. It is an oxidising agent and when mixed with materials such as fuels and other organic materials it is capable of ignition by relatively mild friction or impact, and may burn and explode. In particular sodium chlorate should not be mixed with substances such as sulphur and sulphur containing chemicals, ammonium salts, amines, phosphorus, cyanides acids and powdered metals. Some of these materials form mixtures with sodium chlorate which may ignite spontaneously.

[61] This same publication cautions that sodium chlorate ought not to be packed into wooden pallets unless in conformity with the IMDG Code and that too only if the pallets are new. The pallets moreover can only be used on a one-off basis. This is because sodium chlorate that impregnates the wood comprises a serious fire risk.

Sodium Chlorate In The IMDG Code

[62] The Dangerous Goods List in the IMDG Code specifies that 'sodium chlorate may form explosive mixtures with combustible material, powdered metals or ammonium compounds. These mixtures are sensitive to friction and are liable to ignite. When involved in a fire it may cause an explosion'.

The Material Safety Data Sheet (MSDS) For The Various Chemicals

[63] I have briefly considered the properties of the other compounds that were packed together with sodium chlorate in pallet no. 5, namely CH Amine 48, a carboxylic acid, and CH Malaxion 84, an organophosphate. In order to comprehend the nature and characteristics of these chemicals it is necessary to study the Material Safety Data Sheet or MSDS for each chemical. The safety data sheet which draws reference from United Nations, 2011, Globally Harmonised System of Classification and labelling of chemicals, is a means of communication of information about a substance or mixture for use in the workplace for the purposes of establishing a chemical control regulatory framework. It is a source of information on the hazards a substance poses and provides guidance on safety precautions.

[64] The MSDS is issued by a manufacturer of a product and provides an important source of information for the transportation sector and emergency responses.

[65] Chan in the course of his testimony made reference to the MSDS, explaining that for each of the products in the pallet, there is an MSDS which has been vetted and approved by the Pesticides Board pursuant to its powers under the Pesticides Act 1974. In other words the shipper, as the manufacturer of the products in the six pallets had MSDS sheets for each of the products sought to be shipped out. Chan advised that such MSDS were available upon request to anyone handling the product.

[66] A perusal of the shipper's own MSDS for CH Amine 48 discloses that it is an acid, which although not by itself a fire and explosion hazard, entirely incompatible with 'strong oxidisers'. This would include sodium chlorate. In its own MSDS therefore, the shipper cautioned that CH Amine 48 was incompatible with sodium chlorate, but nonetheless packed it together with the sodium chlorate.

[67] The MSDS for sodium chlorate produced by the shipper specifies that it is 'explosive when mixed with combustible material. Oxidizers decompose, especially when heated, to yield oxygen or other gases which will increase the burning rate of combustible matter. Contact with easily oxidisable, organic, or other combustible materials may result in ignition, violent combustion or explosion.

[68] It is expressly stipulated to be incompatible with amines. Conditions to be avoided include high temperatures and contact with materials which are combustible such as wood, paper, fuel, oils. In fact the MSDS specifically states to avoid such conditions because ignition or explosion may result. Sodium chlorate, it is further specified, must be kept well sealed and stored in a cool, dry and well-ventilated place.

[69] Finally the shipper's MSDS for CH Malaxion 84.0, the final component of pallet no. 5 states that the chemical is combustible and a slight fire hazard when exposed to heat or flames. It is explicitly stated to be incompatible with strong oxidisers resulting in a fire and explosion hazard. In so far as storing is concerned it is specified that malaxion must be kept under lock and key and should be kept away from strong oxidants.

[70] From the foregoing it is clear that the shipper's own MSDS for each of these chemicals specifies that each of them is incompatible with the other. CH Amine 48 is incompatible with sodium chlorate. CH Malaxion 84.0 is also incompatible with sodium chlorate. Given the clear incompatibility between these chemicals which has been expressly recognised by the shipper, should they in fact have been packed together?

[71] The plaintiff's expert evidence is that they ought not to have been packed together as they comprised a fire and explosion hazard. Chan it will be recalled testified otherwise maintaining that under the segregation table in the IMDG Code:

(a) There was no prohibition against packing CH Malaxion 84.0 which he designated class 9, together with sodium chlorate which fell within class 5.1;

(b) The prohibition against packing ch amine 48 in class 6.1 with sodium chlorate in class 5.1 did not apply to the shipper's products because it was an aqueous solution that did not even comprise a dangerous good.

[72] With respect to (a) it is questionable whether CH Malaxion 84.0 given its high level of toxicity, according to the shipper's own MSDS, ought indeed to be classified under the general class 9. It may well fall within Class 6.1, or 8. The latter is specifically for toxic substances. If so, then the segregation table as applied to the packing methodology adopted by the shipper would not allow for these products to be packed together.

[73] Even if the foregoing is incorrect, and CH Malaxion 84.0 has indeed been classified correctly, it appears to this court that given the clear prohibition recognised by the shipper itself in relation to the placement of Malaxion, an organophosphate, in close proximity with sodium chlorate, in that it carries a great risk of a fire and explosion hazard, suggests that the shipper ought not to have packed these chemicals together in a wooden pallet. This notwithstanding the classification in the segregation table because the IMDG Code is clearly formulated to avoid any such hazards and where such hazards have been clearly recognised then steps ought to have been taken to pack the sodium chlorate separately from the Malaxion, and be stowed away from each other, namely with a minimum distance between the separate pallets.

[74] I therefore find that given the clear provisions for incompatibility set out by the shippers themselves in the MSDS produced by them, they have contravened their own safety standards in relation to packing and segregation, by paying scant or no attention whatsoever to the safety information comprised there.

[75] With regards to (b), ie, the packing of CH Amine 48 together with sodium chlorate, the same is clearly prohibited under the segregation table. It stipulates that sodium chlorate ought to be kept away from CH Amine 48. There is therefore a clear contravention of this segregation requirement. I am unable to accept Chan's blanket and somewhat convenient statement that the IMDG is not applicable in so far as the shipper's ch amine 48 is concerned because it is aqueous form. There is nothing in the IMDG Code which states that because it is in aqueous form the provisions of the segregation table are inapplicable. As for his contention that it was not necessary to describe the same as dangerous goods, that again does not obviate the need to comply with the code given that the goods have been stated to fall within the class of 6.1. I find that there is a clear failure to comply with the IMDG Code in relation to the segregation of the sodium chlorate and CH Amine 48.

[76] The crux of the disagreement between the plaintiff's expert and Chan is in relation to the exact mechanism by which the fire and explosion arose. Essentially the shipper maintains that a combination of sodium chlorate, CH Amine 48 and CH Malaxion 84 even if mixed together will not combust or 'self-combust'. While the plaintiff's witness maintained that there was an accidental mixing of the three chemicals which are incompatible with each other. This she concluded could have resulted in a spontaneous ignition after which the sodium chlorate would have accelerated the sparks into fire giving rise to the explosion. The plaintiff's expert further pointed out that there was incorrect and insufficient communication of the nature of the chemicals and the effect of a combination of the chemicals, particularly in pallet no. 5. She concluded that the correct packaging and segregation of the chemicals was the primary responsibility of the shipper who was also the manufacturer and the author of the SDS, who consequently had full knowledge of the nature and characteristics of these chemicals.

[77] Having considered the diametrically opposed opinions in totality and in the context of the evidence and the factual matrix of the case, as well as the joint statement, it appears to this court

that the plaintiff's expert's evidence is credible and ought to be preferred over that of Chan. For the reasons I have enumerated above in relation to the characteristics of the various chemicals in pallet no. 5 which were known to the shipper, given the photographic and other forensic evidence procured after the vessel had sunk, together with the oral evidence of Luka, it appears to this court that:

(a) The packing of the chemicals in pallet no. 5 was essentially flawed as it contravened both the IMDG Code as well as contravened the incompatibility caution sounded by the shipper itself;

(b) There was no evidence before the court to establish whether the pallets were in fact completely or securely sealed so as to preclude any possibility of leaking, spilling or intermixing. It is not possible to state with any degree of certainty that there was no such inter mingling. On the contrary the sequence of events leads, almost inevitably to the conclusion that there was indeed an intermingling of the chemicals.

(c) This, together with the heat under the canvas cover of the top deck under the Malaysian sun, would inevitably have given rise to heating or high temperatures in the pallets which would also have consequential effects on the chemicals. There was the added effect of the vessel which was in constant motion. The pallets were not affixed or segregated so as to preclude the effects of friction on the floor of the vessel.

(d) The reality of friction and/or increased temperatures coupled with the packing of the mutually incompatible chemicals together, caused, or appears on the factual matrix before this court, to be the cause of the fire and explosion. It is indeed clear that the explosion was a characteristic feature of the effects of sodium chlorate exploding. It has been definitively described as a fire and explosion hazard.

(e) There was no information given to the carrier about the nature and characteristics of these chemicals, albeit in the form of the MSDS or otherwise. There was no indication on the Advance Declaration Form, DCN2 of the possible hazards of such a composition of chemicals, notwithstanding that the shippers were the primary persons in possession of such knowledge;

(f) There were no instructions given to the carrier about the stowage of the pallets in accordance with the IMDG Code. A perusal of the segregation table shows that the chemicals in question ought to have been packed separately as well as placed apart from each other on the top deck of the vessel. Friction ought to have been minimised to avert the effects of the sodium chlorate;

I found the evidence of the plaintiff's expert preferable to that of Chan because I found her to be more independent and credible. The plaintiff's witness is an independent witness who was careful throughout her testimony and readily acceded to any plausible theories for example that Malaxion was in fact correctly classified. She accepted this but went on to explain why her theory as to causation was in fact preferable. Chan on the other hand is inextricably connected to, and interested in the outcome of the trial. He is the Technical Manager of the shipper and to that extent is marginally less independent than expected of an expert witness. He failed to explain or highlight the shipper's failure to comply with the explicit provisions of the MSDS. He dealt with a clear contravention of the IMDG Code by simply stating it was inapplicable without more. He dismissed the possibility of leakage and spillage although the events point inevitably in the absence of any other contributing factors to the shipper's cargo. In other words, his evidence was less than independent given the factual matrix. He was unable to adopt a properly independent view of the entire matter. Although it might be said that the plaintiff's expert too is paid for her expert opinion, it is a reality that as an independent expert the expert's primary duty is to the court and not the party paying for his/her expertise. A conflict can arise in a situation such as Chan's where as an expert for the shipper he would find it difficult to concede blame or fault when it comes to his employer. This too where he is the primary officer in charge of operations such as packaging as well as safety data. In all these circumstances it appears to this court that the plaintiff's expert opinion is valid and ought to be accepted.

(g) It is pertinent in this context that both the defendants submitted that the burden was on the plaintiff to prove causation and that it had failed to do so. It is a matter of

common sense that in a disaster such as in the present case, it is physically impossible to recreate the entire event and thereby ascertain in perfect detail precisely what the mechanism and cause of the explosion was. In all such cases, albeit the explosion of a steam boiler or the sinking of a vessel, or the loss of a building by fire, that dominant cause or probable cause is ascertained by working backwards, as it were, to attempt to recreate from the forensic evidence available the likely cause of the incident. Such indeed was the case here. That is precisely what the plaintiff's expert did. She considered the evidence obtained immediately when the vessel had sunk, ie, *vide* the Divers' Report and analysed the same in conjunction with the survey conducted when the vessel was in the shipyard, and the cargo it carried as well as the manner of packaging, stowing etc. In short she undertook a complete analysis of the events from beginning to end to ascertain the cause of the explosion. This is to be contrasted with the defendant's case which was focussed primarily on puncturing holes in the plaintiff's case rather than offering any comprehensive explanation as to the cause of the explosion. Although the burden of course remains on the plaintiff, by calling Ms. Ling and establishing the facts that she did, the onus then shifted to the shipper to rebut the same. This, to my mind, the shipper failed to do. In fact they simply offered a plea of cause not proved. This too appeared to be unsatisfactory given the clear events and evidence before the parties. I therefore conclude that the plaintiff's expert evidence on causation is to be preferred over that of Chan.

The Law

[78] By virtue of s. 2 of the Carriage of Goods by Sea Act 1950 (COGSA) this contract of carriage between the plaintiff and the shipper is subject to the Hague rules. In *Trengganu Forest Products Sdn Bhd v. Cosco Container Lines & Anor* [2007] 5 CLJ 720 Ramly Ali J (now JCA) stated (at p. 726) as follows in relation to the application of the Hague Rules in Malaysia:

Section 2 of the Carriage of Goods by Sea Act clear provides:

> Subject to this Act, the Rules set out in the First Schedule shall have effect in relation to and in connection with the carriage of goods by sea in ships carrying goods from any port in Malaysia to any other port whether in or outside Malaysia.

A The Carriage of Goods by Sea Act gives force to the Hague Rules and provides for its compulsory application to Bills of Lading and similar documents of title issued in relation to outward bound cargoes. The method of enactment adopted is the method of attaching the international convention in a schedule to the Act. The Carriage of Goods by Sea Act was modelled after the United Kingdom Carriage of Goods by Sea Act 1924.

[79] In the instant case it is clear that the plaintiff carrier has a contract of carriage with the shipper evidenced by the plaintiff's bill of lading. The Hague rules are therefore applicable to this C contract. As to the interpretation of these Rules by the Malaysian courts, Ramly Ali J (now JCA) adopted the comments of Lord Macmillan in *Stag Line Ltd v. Foscolo Mango & Co Ltd* [1931] All ER Rep 666 on the United Kingdom Carriage of Goods by Sea Act 1924 which is *pari materia* with our Malaysian Carriage of D Goods by Sea Act 1950:

It is important to remember that the Act of 1924 was the outcome of an international conference and that the rules in the schedule have international currency. As these rules must come under the consideration of the foreign courts it is desirable in the E interests of uniformity that their interpretation should not be rigidly controlled by domestic precedents of antecedent date, but rather that the language of the rules should be construed on broad principles of general acceptation.

F **The Relevant Provision Of The Rules As Set Out In The First Schedule Of The COGSA - art. IV r. 6**

[80] The relevant provision of the Hague Rules as set out in the First Schedule of the COGSA is art. IV r. 6:

G 6. **Goods of** an inflammable, explosive or **dangerous nature to the shipment** whereof the *carrier, master or agent of the carrier has not consented with knowledge of their nature and character* may at any time before discharge be landed at any place or destroyed or rendered innocuous by the carrier without compensation and the *shipper of such goods shall be* H *liable for all damages and expenses directly or indirectly arising out of or resulting from such shipment*. (emphasis added).

[81] How then is art. IV r. 6 to be construed? Goods of a 'dangerous' nature refers to goods which must have the capacity I to cause physical damage in either a direct or an indirect manner and not merely to cause delay. (see *Scrutton on Charterparties and Bills of Lading*, 125th edn. at p. 445, para. 20-096). The word dangerous is not read *ejusdem generis* with 'inflammable, explosive'.

[82] 'Shall be liable' has been held to mean that the shipper's liability is not dependant on any negligence or deliberate act by him other than the act of shipment. (see *The Giannis NK* [1996] 1 Lloyd's Rep 577; *Scrutton on Charterparties and Bills of Lading*, 125th edn). This point arose for consideration in *The Giannis NK* (above) where the English Court of Appeal had occasion to consider whether art. IV r. 6 of the Hague rules created an absolute liability on the part of the shipper or whether by reason of art. IV r. 3, the effect of r. 6 was somewhat diluted to comprise a qualified warranty. Article IV r. 3 provides as follows:

> The shipper shall not be responsible for loss or damage sustained by the carrier or the ship arising or resulting from any cause without the act, fault or neglect of the shipper, his agents or his servants.

[83] In *The Giannis* it was argued that r. 3 is completely general and unrestricted such that the words 'fault or neglect' connote a positive intentional act on the shipper's part and could not properly be interpreted as encompassing the mere act of shipment. Therefore even where r. 6 was concerned, it was argued, there was a need for either deliberate or negligent conduct before an indemnity could be claimed by the ship owner. The English Court of Appeal however dismissed this submission, holding *inter alia* as follows:

> ...First and foremost, it does not seem to me that the very clear words of r. 6 taken by themselves are capable of bearing this qualified construction; no trace of such a qualification is to be found in the language used and the crucial phrase "the shipper shall be liable for all damages and expenses..." is quite categorical, and cannot, as Mr. Broadbent at one time suggested, be treated as a secondary or subsidiary part of the rule. Thus, if Mr. Broadbent was right there would be a direct conflict between r. 3 and r. 6. This cannot have been the draftsman's intention, and can be resolved by adopting Judge Diamond's construction of the word 'act' in the former, thus giving the word its natural and ordinary meaning, which would clearly include the very act of shipment itself.

[84] I would respectfully adopt the foregoing reasoning. As such there is no requirement under art. IV r. 6 of Schedule 1 of the COGSA for the plaintiff carrier here to prove or show any deliberate act of negligence or fault on the part of the shipper, in order to claim an indemnity under this statutory provision.

A **Defence Available To The Shipper Under art. IV r. 6**

[85] The key defence to the carrier's claim under art. IV r. 6 for the shipper is that the carrier knew or should have known of the dangerous nature of the goods. That indeed is the key or crux
B of the matter in the instant case. On the factual matrix set out at the outset it is evident that at all material times:

(a) The shipper maintained that the carrier knew or ought to have been fully aware of the nature and character of the 'dangerous goods', namely the agrochemicals, because both the shipper
C and forwarder had filled in the Advance Notification and Declaration Forms or DCN1 and DCN2 required by the Penang Port Commission which specified the IMDG Code classification and UN number for the various agrochemicals sought to be shipped;
D

(b) The shipper and forwarder also maintained that DCN1 and DCN2 were faxed to the carrier's shipper. This however is in dispute, it will be recalled, as Soo Hup Seng denies receipt of DCN1 and DCN2 until after the incident on the evening of
E 18 October 2008. On the one hand the sole witness from Soo Hup Seng, the Managing Director, Tan Ah Lee maintains that his employees, namely one Mrs. Goh only received these documents specifying the type of chemicals after the incident when she called the forwarders after which they made available
F the documents. However the forwarders maintain through its Managing Director and Operations Executive (siblings) that the requisite documents were faxed to the carrier's agents, namely the packing list, the invoice, DCN 1 and DCN2 on 13 October 2008 such that the carrier through its agent was
G accorded due notice of the nature of the cargo. There is however no documentary or written evidence to corroborate this oral evidence; the shipper's sole witness, Chan Lin Heng, DW-1 also states that all requisite documents were faxed to Soo Hup Seng on 13 October 2008, but again there is no
H facsimile confirmation to bear this out conclusively. In short, it is not possible to ascertain with any degree of certainty who is telling the truth. Either contention is possible on the evidence before the court, namely that Soo Hup Seng were not accorded the relevant information or that they were in fact
I appraised of the packing list, invoice and DCN1 and DCN2

by 13 October 2008, before the voyage on 16 October and the incident on 18 October 2008. As the evidence is equivocal both ways, it is difficult to ascertain the truth of the matter.

(c) However it does appear that Mr. Tan Ah Lee for Soo Hup Seng was not the witness who dealt directly with the forwarders. His employees or staff did so but did not testify. To that extent his evidence was largely hearsay. His contention at all times was that while they were aware that the goods sought to be shipped were 'dangerous' in that they were toxic, neither he and therefore the carrier knew or could possibly envisage that the pallets were potentially explosive under certain conditions.

(d) As against this, DW1, Chan Lin Heng for the shipper, Bong the Managing Director of the forwarders and Celine the Operations Executive of the forwarders were clear that they had made known to Soo Hup Seng that the goods sought to be shipped were dangerous goods and that they had identified these goods by their chemical names in DCN1 and DCN2, to which in any event, Soo Hup Seng was connected on-line.

(e) Despite the fact that the evidence is equivocal and it is not possible to make a finding as to whether Soo Hup Seng and thereby the carrier had knowledge that the goods sought to be shipped were dangerous, I will proceed on the basis that Soo Hup Seng was aware that the goods were 'dangerous' goods. I do so on the basis that Soo Hup Seng themselves accept that they knew the goods were toxic, and to that extent dangerous. They also charged a fee based on dangerous goods. Finally they were aware that the Penang Port Commission had directed that the cargo be loaded on board directly, a directive that is generally given for dangerous goods. On this basis it would appear that Soo Hup Seng and therefore the carrier were aware that the goods were 'dangerous' goods;

(f) However is this in itself sufficient to amount to 'knowledge of their nature and character'? It appears to this court that the crucial question or issue for consideration is whether by simply signifying goods as 'dangerous' and specifying their chemical names, this is sufficient to discharge the burden placed on the shipper of ensuring that the carrier has 'knowledge of the

A nature and character of the goods' such that it can be said he has consented to assume or bear the risk of shipment of such goods. Acceptance by the carrier of the goods with knowledge of their dangerous character is deemed consent to accept the risks of carrying such goods;

B

(g) In the instant case, the carrier's agent, at the very highest was given notice that:

(i) The goods fell within the category of 'dangerous goods';

C (ii) The primary danger posed by these goods was their toxic nature;

(iii) The chemical names, IMDG classification and UN Number were made available but only in DCN1 and DCN2. In D other documents trade names or common names were utilised;

(iv) The goods were categorised in many documents of significance, such as the Bill of Lading and Mate's receipt simply as 'agrochemicals'.

E

Was The Carrier's Agent Or Carrier Made Aware Of The Kind Or Nature Of The Particular Danger That In Fact Transpired?

F **[86]** The danger posed by these goods as has been considered above, is that in certain situations where sodium chlorate is subjected to heat, friction or co-mingles with incompatible chemicals it comprises fire and explosion hazard. The key question to be posed, it appears to this court, is whether the carrier's G agent or the carrier were made aware of this particular nature or kind of danger. Moreover was the fact that pallet no. 5 contained incompatible chemicals which had been packed together been made known to Soo Hup Seng or the carrier? Or was it the case that the shipper itself was unaware of the possible hazards of so H packing the pallet? It may well be the case that if there had been no ignition caused by friction or heat that the explosion might not have occurred. But that would have required specific steps taken to obviate the possibility of overheating through raised temperatures and avoiding friction, all of which would have I required specific instructions on the method of stowage.

[87] No such possible dangers or hazards were indicated or signified by the shipper or the forwarders. The forwarders in the course of their evidence clearly indicated that they had no knowledge of the nature and characteristics of these chemicals in relation to their being potential fire or explosion hazards. Such knowledge is only attributable to the shipper.

[88] Viewed another way, the carrier's degree of knowledge and therefore the kind of risk to which he consented can be deduced from the kinds of precautions which he in fact did take. In the instant case, it would appear that the carrier was aware that the goods were dangerous goods because they were stowed on deck and covered with canvas. However it is equally clear that no steps were taken to avoid friction which is a trigger factor for ignition and subsequent fire and explosion. Neither were steps taken to store the cargo in a dry or cool place as heat is another trigger for the hazard that in fact, transpired.

[89] The IMDG Code was not followed so as to ensure separation of the sodium chlorate from the amines and malaxion. These matters all point to the fact that insufficient and/or inadequate information about the nature and characteristics of the chemicals was accorded to the carrier. The specific hazard of a possible fire and explosion risk under certain conditions was not highlighted. And the fact that pallet no. 5 contained a mixture of incompatible chemicals rendered the pallet unfit or dangerous for transportation in the manner in which it was packed. The carrier did not, and could not have, knowledge of these matters which remained entirely within the knowledge of the shipper, who is also the manufacturer and thereby best placed to advise on the safest means of packaging for transportation by sea.

[90] As the carrier's precautions were appropriate for the kind of goods described in the contract, namely agrochemicals, but insufficient for the particular goods shipped, namely the mixture in pallet no. 5, ie, sodium chlorate together with amines and Malaxion, it appears that liability for the loss and damage suffered under art. IV r. 6 falls squarely on the shipper. This is because the carrier cannot be said to have received enough warning, nor could he reasonably be expected to have known of the particular characteristics of that dangerous cargo. He would have understood the danger to lie primarily in the context of toxicity, rather than explosive or fire danger. As such it cannot be said that the carrier agreed to bear the risk of this particular hazard.

[91] In the case of *Micada Compania Naviera SA v. Teximi* [1968] 2 Lloyd's Rep 57 a clause of the charter entered into between the ship owners and charterers provided that no dangerous goods were to be shipped. Iron ore concentrate was loaded and by reason of its moisture content comprised dangerous cargo. Such iron ore concentrates are what is known as thixotropic cargo. Such cargoes have the peculiar characteristic that although when loaded they appear to be reasonably dry, if they have a moisture content of above a critical amount they liquefy on vibration. As a consequence of such liquefaction the vessel had to put into a port outside of the prescribed route, have cargo unloaded, shifting boards put in and then reload the cargo. The owners claimed in arbitration proceedings for the expenses incurred by them in respect of the period at the port, as well as hire withheld by the charterers for that period. Donaldson J found that the owners properly and reasonably incurred the expenses in reloading as the cargo was indeed dangerous. This is what he said:

> Whether that is right or not, it seems to me that these goods must be considered as being dangerous The danger consisted in the fact that the cargo was not what it seemed to be. The master, on the findings of fact, had proffered to him what one might describe as a non-shifting board cargo and it was offered, as it were, labelled as a non-shifting board cargo. In fact we now know that it was, at least as to part, a shifting board cargo and as to part, it may not have been loadable at all. In a word, what he was being offered was a wet wolf in a dry sheep's clothing and there was nothing to put him on notice that the cargo was something radically and fundamentally different from that which it appeared to be. In those circumstances it seems to me that the cargo was dangerous beyond all argument.

[92] In like manner in the instant case it appears that the neither the master, carrier nor Soo Hup Seng, the carrier's agent had any means of ascertaining or knowing the nature and characteristics of the goods that had been packaged by the shipper in the manner set out in Pallet No. 5. The effects of sodium chlorate were not made known by the shipper. Instead the carrier was proffered a cargo which was somewhat innocuously described as agro-chemicals with a series of trade names that in themselves would not afford any indication of the potential fire or explosion hazard in conjunction with igniting factors such as friction and heat. These are salient and material matters to be advised of in relation to stowage and special handling. However

no such instructions were given by the shippers. This is further exacerbated by the fact that pursuant to the MSDS produced by the shippers themselves as manufacturers they knew or ought to have been aware of these risks.

[93] The shipper might well maintain that given that the chemical names of the agrochemicals and classification had been made known in DCN1 and DCN2, it was incumbent upon the carrier or master to make himself aware of these dangers. Alternatively, it might be said that these dangers ought to have been known to the carrier. However these contentions have no merit because it cannot be concluded that the master, or carrier or carrier's agent ought reasonably to have known of the precise dangers of these chemicals by simply sighting their chemical names. Nor do they have a duty to ask for the MSDS and satisfy themselves as to the precise risks of that group of agrochemicals. That would amount to placing far too onerous a duty on the carrier and/or the carrier's agent. In short it is my finding that the master and carrier did not, and could not have been aware of the potential fire and explosion risk that the shipper's cargo comprised, because they were not given notice of the nature and characteristics of the chemicals and more particularly the effect of packaging the same together, particularly in Pallet No. 5. Neither were they warned of the necessity of isolating the sodium chlorate. This in any event would not have been possible as the sodium chlorate had been packed securely together with the amines and malaxion. In these circumstances it follows that it cannot reasonably be concluded that the carrier consented, with knowledge of the nature and characteristics of the cargo to carry the same and assume the risks such cargo posed. The plaintiff has therefore established liability against the shipper under art. IV r. 6 of the Hague rules.

[94] I am further fortified by the case of *Heath Steele Mines Ltd v. The Erwin Schroder* [1970] Ex CR 426 where the Exchequer Court of Canada had occasion to consider this issue. In that case the defendant ship left Newcastle N.B. with a cargo of copper concentrate. On her third day out the defendant ship encountered a storm and the concentrate liquefied; a considerable quantity of the concentrate moved from the starboard to the portside. The defendant ship deviated from her course to avoid capsizing and put in at Halifax where the cargo was discharged and its further

carriage refused. In these circumstances the plaintiff shipper sued for damages for breach of the charter party and the defendant counterclaimed for, *inter alia*, the balance of freight due and damages for loss of use of the vessel.

[95] One of the issues that arose for consideration at trial was whether the vessel's master was aware of the danger involved in carrying such cargo or what precautions were necessary. In that case the peculiar characteristic of the cargo at that time in 1962 was known to only a few scientists and the person who had negotiated the charter party on behalf of the plaintiff. Three expert witnesses versed in shipping matters produced as witnesses swore that no such physical change from solid to viscous state was possible. The evidence established that the master of the vessel and its owner did not suspect that the cargo they undertook to carry as a solid could turn fluid. They in fact took steps to guard against known hazards. Despite the fact that there was a finding that even the shipper was unaware of the specific danger posed by the cargo, the Canadian Court concluded that liability lay with the plaintiff shipper. The master and vessel had complied with all requirements of the port authorities and Canadian Code of transport.

[96] In those circumstances the court concluded as follows:

> ... It is not possible for me, under these circumstances to reach any other conclusion than that the master of the vessel or its owner did not know and could not reasonably know of the danger involved in transporting this cargo as such danger was not apparent or obvious nor were they told of such danger. They were not in any way neglectful nor did they lack in diligence in accepting and loading this cargo even if its moisture content was beyond the transportable limit and even if they were responsible for the proper stowage and safe delivery of the cargo. The obligation of the carrier, as a matter of fact, is not an absolute warranty but merely means that the carrier will not be negligent in the stowage of the cargo and the evidence here discloses no negligence of the carrier in any material respect nor is there any foundation to the appellant's contention that the carrier failed to comply with any of its contractual obligations under the charterparty ...
>
> ... The appellant (plaintiff shipper) then failed to inform the respondent of the danger involved in transporting this cargo on the high seas, as it, in my view, should have. Had this been done greater precautions might have been taken to stow it (the evidence

indeed disclosing that the only possible way this dry cargo vessel could safely carry this viscous substance was by honeycombing the holds) or the respondent would have declined to carry it, thus avoiding unnecessary damage and costs. ...

[97] In the instant case the circumstances are arguably even clearer. Here the shipper was aware or ought to have been fully aware of the potential dangers of sodium chlorate and the manner of packing the same. There was a clear breach or failure to comply with the segregation table of the IMDG Code in packing the sodium chlorate. It was also packed together with incompatible chemicals. These matters were solely within the knowledge of the shipper. As such it was incumbent upon the shipper to given notice to and procure the consent of the carrier to the specific dangers and potential hazards posed by the pallets, namely that there was a potential fire and explosion hazard. If in a case where the shipper itself had no knowledge of the danger but was nonetheless held liable for the danger posed by its cargo, it follows that in an instance such as the present where the shipper was aware or ought to have been aware of the dangers posed by the cargo, it ought to have alerted the carrier to the same, thereby affording the carrier the opportunity of taking the requisite precautions, if possible, or refusing to carry the cargo. This the shipper here failed to do.

[98] It therefore follows that the shipper, ie, Vitachem (M) Sdn Bhd, is liable for all damages and expenses directly or indirectly arising out of or resulting from the shipment. The terminology of the rule, namely that the shipper 'shall be liable' denotes that the shipowner's liability is not dependant on any negligence or deliberate act by him other than the act of shipment. (see *The Giannis NK* (above). Accordingly the fact that I have concluded that the cause of the incident is attributable to the shipper is not necessarily of relevance to establish liability. More over the words 'directly or indirectly' indicate that recovery under the Article is not dependent on establishing that the dangerous nature of the cargo was the proximate or dominant cause of the loss, although on the facts of this case it was. See *Scrutton on Charterparties*, 125th edn. at p. 445, paras. 20-096-20-098.

Liability At Common Law

[99] Strictly speaking it is not necessary to consider this alternative basis for liability in view of my conclusion above. However for completeness it relevant to note that in *The Giannis*

NK [1998] 1 Lloyd's Rep 337 the English House of Lords considered the position in common law of a shipment of dangerous goods. In that case the plaintiffs' vessel, the *Giannis NK* loaded a cargo of ground-nut extraction meal pellets at the port of Dakar into a particular hold, hold No. 4. Cargoes of bulk wheat pellets had been loaded into other holds at previous loading ports. The ground nut pellets were fumigated after loading and an SGS certificate was issued. The vessel proceeded on her voyage and at the first port of discharge in San Juan in Puerto Rico, part of the grain pellet cargo was discharged. She then proceeded to the Dominican Republic to discharge the balance. On arrival there she was inspected by the agricultural authorities. Live insects and shed skins were found in the cargo and the vessel was quarantined. The vessel was fumigated twice but after each fumigation live insects were still found in the vessel's holds and finally the ship was ordered to leave the port with the ground nut cargo and wheat cargo still on board. It was found that a species of trogoderma everts or Khapra beetle existed in the vessel when she had arrived at her destination. The Khapra beetle is an unusual insect originating from tropical countries, and it multiplies rapidly. Its larvae are capable of rapidly devouring a cargo of foodstuffs if they are present within it. The Khapra beetle was not endemic in the Dominican Republic which is why the vessel was ordered to leave, as the authorities did not want it to spread to its region.

[100] The vessel accordingly left for San Juan where the U.S. agricultural authorities, after due investigation ordered the vessel to return the cargo to its country of origin or to dump it at sea 25 miles from the shore. The cargo was duly jettisoned, namely both the ground nuts and the wheat. The owners notified charterers that they considered the infestation originated in the ground nut cargo shipped under the charter. Proceedings were commenced against the owners and the shippers of the cargo. The owners claimed against the charterers and shippers. The charterers took no part in the action. The shippers denied that the cause of the owners' losses was the Khapra beetle in the cargo shipped at Dakar. They argued that it was at least likely that the Khapra beetle was already on board the vessel when the ground nut cargo was shipped.

[101] The owners on the other hand claimed that the ground nut cargo was a dangerous cargo by reason of the fact that it contained the Khapra beetle. This they contended constituted a

physical danger both to the ship which therefore require fumigation before it could be used, and also to the other cargo which had to be dumped at sea. The owners sought to recover from the shippers pursuant to art. IV r. 6 of the Hague Rules, as is the case here. The Hague Rules had been incorporated into the contract of carriage as evidenced by the bill of lading. Alternatively there was an implied warranty that the shipper would not ship dangerous goods. The claim was for damages for delay, bunker expenses incurred, fumigation and an indemnity in respect of any liability they might have in respect of the wheat cargo.

[102] Having established liability under art. IV r. 6 of the Hague rules, the court went on to consider the position at common law. The House of Lords considered *Brass v. Maitland* [1856] 6 E & B 470 where the court held that shippers generally undertake that they will not deliver, to be carried in the voyage, packages of goods of a dangerous nature, which those employed on behalf of the ship owner may not on inspection be reasonably expected to know to be of a dangerous nature, without expressly giving notice that they are of a dangerous nature. On the absence of knowledge of such danger even on the part of the shipper, it was held that the shippers, and not the carriers ought to suffer the consequences. It was held that if, from the ignorance of the shippers, due notice of the specific danger was not given to the ship owners or carriers, which notice they were entitled to receive, and from the lack of which notice a loss arose, then liability fell upon the shipper and not the carrier. (see also *Bamfield v. Goole and Sheffield Transport Co Ltd* [1910] 2 KB 94 and *Great Northern Railway Co v. LEP Transport and Depository Ltd* [1922] 2 KB 742). It follows from the foregoing that the liability of the shipper arises and remains where he shipped or allowed to be shipped and carried on board, 'dangerous goods', whether he knew of the dangerous nature or otherwise.

[103] The House of Lords concluded, *inter alia*, as follows on the issue of liability of the shipper at common law:

> ...I agree with the majority in that case and would hold that the liability of a shipper for shipping dangerous goods at common law, when it arises, does not depend on his knowledge or means of knowledge that the goods are dangerous.

A An incidental advantage of that conclusion is that the liability of the shipper will be the same whether it arises by virtue of an implied term at common law or under art. IV, r. 6 of the Hague Rules.

B (In the United States the position is different as the shipper is only held to his actual or constructive knowledge).

[104] In the instant case therefore even under the common law, the shipper's liability is absolute *vis a vis* the dangerous goods and liability extends to a situation where arguably the carrier was not C aware of the dangerous nature of the goods. However in the instant case the issue of a lack of knowledge of the nature or characteristics of the dangerous goods shipped does not arise because the shipper in this case was aware or ought to have been aware of the nature and characteristics of the chemicals shipped, D or more importantly the incompatibility arising as a consequence of packing together some of these chemicals, as it is the manufacturer of the same. Such knowledge is borne out moreover by the MSDS sheets. The same result is therefore obtained in common law.

E

The Carrier's Knowledge

[105] I have examined this issue above. However if it is contended that the carrier knew or ought to have known of the F nature and characteristics of the chemicals shipped by the defendant because it had been warned through its agent Soo Hup Seng *vide* the shipping documents and particularly the advance declaration and notification to the Penang Port Commission that the goods were 'dangerous' goods, the answer is that the fact that the shipper had made the declaration declaring the goods as G dangerous goods, and had placed some labelling on the subject pallets to indicate that they were dangerous goods, does not translate to a warning or information or directive that sodium chlorate, a strong oxidiser, which had been packed together with an organophosphate, namely malaxion and a carboxylic acid, amine H in a single pallet could pose a potential explosion or fire hazard. The hazard which was sought to be communicated was the fact that the chemicals were toxic, and to that extent dangerous.

[106] The hazard indeed is two-fold. In the first place these three I chemicals ought not to have been packed together as they posed a potential hazard. Such packing together of incompatible chemicals

appears to be entirely misconceived. Even if this is accepted, the fact that there were large quantities of sodium chlorate packed in wooden pallets which could be subjected to friction and high temperatures and thereby heat which would render the chemical less stable was not made known to the carrier. It is not evident that the sodium chlorate was even considered as a risk factor in respect of which sufficient precautions needed to be taken. No special directives were issued in respect of the method of storing or keeping the sodium chlorate away from the amines (and the malaxion which arguably can also fall within class 6.1, rather than 9) as indicated by the IMDG Segregation Table. Even if the carrier had studied the segregation table he was in no position, given the palleting to separate the sodium chlorate from the amines and/or the malaxion. Furthermore, as pointed out earlier the extent of the carrier's knowledge may be gleaned from the manner in which the defendant's shipment was stored. Such storage indicates that insufficient precautions were taken to preclude or obviate the effects of both friction and heat, both of which could initiate ignition. This in itself indicates that the carrier was wholly unaware of the potential risks arising from the method of packaging of different chemicals employed for pallet no. 5, as well as the fact that the sodium chlorate was not stored separately from the other chemicals. Given the entirety of the factual matrix, I am satisfied that the carrier was not aware of the nature or characteristics of the goods shipped and accordingly cannot be allocated liability for failing to take any further precautions. It therefore follows from the foregoing that the carrier, in the absence of such knowledge, cannot have agreed to bear the risk of the potential hazard, namely a fire and explosion risk.

[107] Put another way the description of the goods, merely as 'agrochemicals' and as dangerous goods as well as their trade names in themselves on some documents only (and not the primary documents such as the bill of lading) warrants the conclusion that such a description could not reasonably be expected to incite the carrier to take the requisite precautions expected of it, because the carrier did not have knowledge of the nature of the goods. It therefore also follows that the carrier cannot be said to have agreed to bear that particular risk.

[108] Although goods of this sort have been shipped periodically by Vitachem (M) Sdn Bhd and such goods have been described as dangerous goods, the danger thereby posed, has generally been

considered to relate to toxicity. In this particular case the cargo shipped, particularly pallet no. 5, posed or gave rise to a danger so different than that ordinarily expected by a carrier of agricultural chemicals, that it cannot be said that the carrier, namely the plaintiff, consented to the risks involved, namely a fire and explosion risk. In this context, even if it is true that labels indicating 'fire' or 'explosion' were indeed affixed to the pallets, this in itself is clearly insufficient to signal or give any kind of reasonable information to the carrier of the nature of the hazard. Such information would have had to have been communicated more specifically such that it was apparent that an admixture of some of those chemicals and the effects of sodium chlorate were made known to the carrier.

[109] In these circumstances I am satisfied on the factual matrix of this case that the defendants failed to establish that the plaintiffs had knowledge of and consented to the carriage of the shipper's dangerous goods cargo.

[110] The shipper has relied on the case of *The Fiona* [1993] 1 Lloyd's Rep 257 to support its contention that it is not liable. The case concerns a shipowner's claim in contract under art. IV r. 6 of the Hague-Visby Rules. However that case is distinguishable from the present case as the court there declined recovery because the shipowner itself was in breach of its overriding duty of seaworthiness under art. III r. 1. In that case it is true that there was a finding, as is the case here, that neither the carrier nor the master nor any agent of the carrier consented to the shipment of the fuel oil cargo with knowledge of its nature and character; the fuel oil cargo had dangerous characteristics which were wholly different from those commonly associated with fuel oil cargoes. However it was found that the dominant or most efficient cause of the explosion in that case was the contamination of the fuel oil held in the tank within the vessel, by residues of the previous condensate cargo. There had been a failure on the part of the carrier to remove condensate residues from the vessel and in particular a failure to carry out a proper line and duct wash at the port of loading prior to such loading commencing. This constituted a breach by the owners under art. II r. 1 of their duty to exercise due diligence to make the ship seaworthy and to make the holds and all other parts of the ship in which goods were carried fit and safe for their reception and carriage. The dominant cause of the explosion was the breach of the owners of art. III r. 1. It is therefore immediately apparent that unlike that

case the cause of the explosion of the carrier in the instant case is attributable to the shipper's dangerous cargo. Put another way, the dominant or proximate cause of the fire and explosion was the dangerous cargo containing sodium chlorate and other incompatible chemicals which, when ignited by the friction and/or heat, caught fire and exploded.

[111] It is however noteworthy that in *The Fiona* (above) despite the fact that the shipper had declared the cargo as fuel oil, this was held to be inadequate to disclose the risks attendant to the carriage of certain types of fuel oil, the characteristics of which are not generally known. In like manner by simply designating goods 'agrochemicals' or dangerous goods in themselves fails to advise or warn the carrier of the type or nature or kind of danger that might arise that is not normally expected of goods falling within that category. In the case of agrochemicals which are earmarked as dangerous goods, it appears from the evidence of the carrier's agent, at least, that the normal sort of 'danger' known of these products is that of toxicity and not of it being a fire or explosion hazard. Even if I am wrong in so concluding and it is well known that sodium chlorate is explosive and poses a potential fire and explosion hazard, then it would follow that the substance ought to have been segregated and specific directions given for its stowage. In the instant case as the sodium chlorate had been packed together with other chemicals in a manner which precluded the carrier from having any access to it, such separation was simply impossible.

[112] The shipper also relied on *The 'Athanasia Comninos'* [1990] 1 Lloyd's Rep 277 where again the ship owners in that case failed to obtain an indemnity from the shippers in respect of damage suffered as a consequence of an explosion. In that case the vessel had been chartered for the carriage of coal from Nova Scotia to Birkenhead. Shortly after sailing the vessel was damaged by an explosion caused by the ignition of volatile mixture of air and methane gas which had been emitted by the coal after loading. Vitachem (M) Sdn Bhd seeks to draw a parallel to the instant case. However in *The Athanasia* (above), Mustill J found as a fact that the cause of the explosion, namely the emission of methane giving rise to the explosion was attributable to the master. He concluded that 'either through insufficient knowledge or failure to put into practice the knowledge which they did not possess, Captain Gerakas and those under his command brought about this casualty by failure to carry the cargo with the care appropriate to

A the carriage of coal. It is pertinent that in that case the court found that mode of carriage of coal which possesses specific characteristics was a matter well known to those in the trade, namely carriage of coal by sea.

B **[113]** In the same case however the court also considered liability in respect of another vessel, the *Georges Chr Lemos*. (There were two incidents in this case). In this latter incident the court concluded that the cause of the explosion was unknown. However notwithstanding this the court concluded that simply C because the cause of the explosion was unknown this was no bar to imposing liability. It was held by Mustill J:

> It seems to me perfectly possible to have a loss which is caused by the shipment of a cargo having certain properties, even if the properties of the cargo in question are no different from those of D other cargoes of the same description. In the present case, if one asks the question (eliminating the possibility of fault on the part of the ship owner) 'Why was there an explosion?' the answer is 'Because there was methane in the hold'. And if one goes on to ask 'Why was there methane in the hold?' the answer is - E 'Because the Time Charterers called on the vessel to load coal.' This answer is in my opinion sufficient to found an indemnity, without any proof that the coal was in any way unusual.

[114] Applying the foregoing to the instant case if one were to ask of the instant case, why was there an explosion, the answer F would be, because of the manner in which incompatible chemicals were packed in pallet no. 5 and/or because of the presence of sodium chlorate which was not segregated. The explosion could not have occurred without the shipment of these pallets as is borne out by the forensic evidence. In other words, the explosion G arose because the shippers called on the vessel to load and carry those pallets. It might be added, the shipper sought to do so without advising or cautioning the carrier of the type or nature or kind of danger that could potentially arise. This answer therefore is sufficient to found an indemnity albeit under the Hague Rules H in Sch. 1 to COGSA or in common law.

The Plaintiff's Cause of Action in Negligence

[115] The plaintiff founds its claim both in contract and in tort I for all losses arising and incurred by it against both defendants jointly and severally. I have considered the shipper's liability under the Hague Rules and in contract in some detail above. On the

same factual matrix it remains to be considered whether such liability arises in negligence. The trite position in law in relation to the carriage of dangerous goods is the three-fold requirement of a duty of care, a breach of that duty of care and loss or damage arising as a consequence of such breach. In other words the loss or damage must be occasioned or caused by the breach. In the context of dangerous goods, the duty owed is that of reasonable care to prevent the dangerous goods from causing or doing injury or damage to persons or property likely to come into contact with them. And such burden lies on the plaintiff. (see *The Sunrise Crane* [2004] 1 SLR 300).

[116] Applying Lord Atkin's test in *Donoghue v. Stevenson* [1932] AC 562 which has been utilised subsequently in an entire compendium of cases since, to the facts of the instant case, it is clear beyond dispute that a duty of care exists between the shipper here, Vitachem (M) Sdn Bhd and the carrier, the plaintiff. In other words the proximity of the relationship between the two results in there arising a duty of care on the part of the shipper to inform the plaintiff carrier, the recipient of the dangerous goods of the dangerous nature of the goods it is expected to carry. This is particularly clear in view of the privity of contract between the shipper and the carrier.

[117] The manner in which this case has been run discloses that in so far as the defendants here are concerned, it more than sufficed that they:

(i) Filled in an Advance Declaration and Notification Form in DCN1 and DCN2 with the Penang Port Commission, which gave notice to the carrier that they were carrying dangerous goods;

(ii) Disclosed or set out the chemical names of the goods that was the subject matter of the contract of carriage;

(iii) Set out the trading names and common names of the goods in the packing list and invoice;

(iv) Labelled the goods as 'agro-chemicals';

(v) Had followed this practice for many years.

[118] On this basis and on the evidence of the carrier's agent and the forwarding agent, parties at trial focused almost entirely on the issue of whether as a matter of fact, the carrier's agent

was aware that the goods were 'dangerous goods'. The dispute centred around whether the carrier's agent was in fact aware of the 'dangerous' nature of the goods and whether the carrier had been duly informed of the same. A considerable amount of time was expended on the evidence of the respective agents' employees and whether or not they dealt with the goods as 'dangerous cargo' or not. Such an approach appears to be less than relevant to the matters at hand.

[119] The issue for consideration is whether the shipper fulfilled its duty of care owed to the carrier by simply designating the goods as 'dangerous goods', complying with the statutory requirements of the port authorities by filling in DCN1 and DCN2 and describing the goods without more as 'agrochemicals'. I have discussed this issue at length above where it has been pointed out that it is the nature and kind of danger that has to be made known to the carrier. The fact that agrochemicals suggest danger in the form of toxicity rather than explosive or fire hazards in itself warrants a clear directive to that effect. The fact that pictorial labels might have been placed on the pallets in no way meets the requirements of this stringent duty of care.

[120] The potential explosive and fire hazards of the cargo were not sufficiently made known to the carrier. I have made this finding previously above and adopt the same for the purposes of the cause of action here. Applying the case law there it appears clear to this court that the potential danger of packing incompatible chemicals together, as well as the potential dangers of sodium chlorate were not made specifically known to the carrier or the carrier's agent. It is simply insufficient to fill in forms and comply with port requirements and maintain at the same time that there has been full information and knowledge provided to the carrier about the hazards of such a cargo. It was open to the shipper at all times to fill in the nature of the potential hazard in the DCN1 and DCN 2 form or to expressly stipulate so in some written form and to provide specific directions about stowage particularly given the segregation table relating to sodium chlorate. None of this was done and accordingly I have no hesitation in concluding that, not only did the shipper owe a duty of care to the carrier to specifically point out the nature of the potential dangers posed by the cargo, but that the shipper failed or breached its duty to do so. Arising from my finding on causation earlier it follows that the cause of the explosion was the dangerous cargo and accordingly the damage sustained by the ship

owner is entirely attributable to the shipper. I therefore conclude that the shipper is liable in negligence to the carrier as well. This is consonant with the finding in contract.

What Is The Liability If Any, Of The Forwarding Agent?

[121] At the risk of stating the obvious, the forwarding agent here, Heng Forwarding is the agent of the shipper. In other words the relationship between the forwarder and the shipper is one of agent and principal respectively. *Scrutton on Charterparties and Bills of Lading* (22nd edn.) states as follows of this relationship pertaining to forwarders and shippers:

> The term 'forwarding agent' has several meanings. In the original sense, in which it is more or less synonymous with 'shipping agent' it means a person employed by the shipper to enter into contracts of carriage with ship owners, but in the capacity of an agent only, and without personal liability as a carrier. The normal duties of a forwarding agent in this sense are: to ascertain the place and date of sailing, obtain a space allocation if required, prepare the bill of lading and send the draft to the loading brokers, arrange for the goods to be brought alongside, make the customs entry and pay any dues, and collect the signed bill of lading after the shipment...
>
> ... It is often difficult to tell, in any given case, whether a person describing himself as a 'forwarding agent' is in fact contracting as an agent or a principal. The fact that a person describes himself as a 'forwarding agent' will not preclude him from being treated in law as a principal with the liability of a carrier, even if the carriage is not performed by him personally. Whether the forwarding agent has contracted as an agent or as a principal will turn on the construction of his contract with the shipper and the surrounding circumstances, particularly the relationship between the forwarding agent and the actual carrier ...

[122] And further on it is noted:

> ...It seems that he (ie, the forwarding agent) is also liable as a principal to the ship owner for shipping dangerous cargo without giving notice to the ship owner of its dangerous character. (see *Great Northern Ry v. L.E.P. Transport and Depository* [1922] 2 KB 743)

[123] In the case of the *Great Northern Railway Company v. LEP Transport and Depository, Limited* [1922] 2 KB 742 which deals with carriage of goods by rail, forwarding agents delivered to a railway company for carriage twenty carboys containing what was

described as oxygen water to a particular consignee and also six bales of felt hats, called 'hoods' which were deliverable to a different consignee. The carboys and hoods were placed in the same van. The liquid in the carboys was a solution of hydrogen peroxide which passed under the name of oxygen water. It was not included among dangerous articles in the general railway classification of goods for the year 1920 "when packed in glass carboys containing not more than 130 lbs." In point of fact the carboys in question contained hydrogen peroxide of a kind known as perhydrol which gave off oxygen and was corrosive in nature, particularly when it comes into contact with felt and other organic substances. Due to inadequate packaging, the oxygen thus produced and accumulated, forcing the stoppers out of the carboys as a consequence of which the liquid escaped and flowed over the hoods, causing damage. The owner of the hoods brought an action against the railway company which admitted liability and then brought an action to recover the said sum from the forwarders for breach of warranty. It is pertinent that the shippers of the carboys were not party to the proceedings. In these circumstances it was held that the railway company or carrier, was entitled to recover from the forwarding agents, as upon an implied warranty that the goods were fit to be carried, the amount the carrier had paid to the owner of the felt goods for the damage done.

[124] Scrutton LJ examined the position in law commencing with the decision of that court in *Brass v. Maitland* (above) and pointing out the divided view taken by that court in relation to the warranty given by a shipper of dangerous goods. The majority of the court in *Brass v. Maitland* took the view that there was a warranty by the shipper that he would not deliver dangerous goods so packed that those employed on behalf of the ship owner could not on a reasonable inspection discover their dangerous nature, without expressly giving notice that they were dangerous and that the warranty was independent of the knowledge of the shipper. Crompton J dissented and took the position that the obligation of the shipper and thereby the forwarding agent, was only to give notice if it was known that the goods were dangerous. Consequently a forwarding agent who did not know that the goods were dangerous was not under liability. He then went on to consider the case of *Bamfield v. Goole and Sheffield Transport Co Ltd* [1910] 2 KB 94, another case of carriage of dangerous goods namely a series of casks which were described as general cargo

and in fact contained ferro-silicon which gives off poisonous gases. Deaths were occasioned by the carriage of this cargo and the court in that case took the same view as the majority of the court in *Brass v. Maitland* namely that there was an absolute warranty that the goods were safe to carry. Again in a dissenting judgment Vaughan Williams LJ took the same view as Crompton J that the warrant was only to disclose what one knew.

[125] Having considered these cases, Scrutton LJ concluded that the court in the *Great Northern Railway Co v. LEP Transport* case (above) were bound by the decision of the majority in *Bamfield v. Goole and Sheffield Transport Co* (above) to hold that the forwarding agents who deliver goods in fact dangerous to the carrier, without informing him of their danger are liable for consequent damage sustained through that danger. That would therefore appear to be the position applicable in the instant case. This is particularly so given that in the declaration forms given to the port authorities the forwarder expressly undertakes and certifies that the cargo was properly described, classified, packed, marked and labelled and was in a proper condition for transport by sea, according to the applicable international and national government regulations.

[126] As a matter of fact it was evident from the testimony of Mr Bong, the Managing Director of the forwarding agent, that he had no knowledge of the contents of the cargo but had merely followed his long practiced protocol of filling in the requisite forms and giving the necessary undertakings with no real comprehension of the nature of the cargo that was being shipped etc. In the course of his testimony he stated that he did not know or understand the chemicals or their names and merely relied on the data base available when filling in the declaration to have the scientific names of the chemicals specified as required by international regulations. It is apparent from a consideration of the testimony of Mr Bong and the carrier's agent, Mr Tan, that agents in general take a relatively casual, if not slapdash approach to the requirement to exercise caution in relation to the carriage of dangerous goods. The emphasis appeared to be on filling in the requisite forms to get the necessary approval from the authorities rather than any real attempt to exercise their duty of care so as to ensure that the subject goods were indeed safe for carriage by sea in line with international regulations. It is evident that the forwarder in this case relied entirely on the shipper and made no independent assessment of the risk. In point of fact the forwarder

did not appear to comprehend that in view of the position in law and the certification he had provided to the authorities, he had in fact provided an independent warranty to the carrier to the effect that the goods were safe for shipment. Such an independent warranty carries its independent obligations which the carrier is entitled to call upon in the event of a disaster such as the present.

[127] In the publication, *Freight Forwarders* by DJ Hill (1972, Steven & Sons), the learned author states:

> ... if a forwarder is merely acting in his capacity as such, he will be liable to the actual carrier under the implied warranty of fitness even though he may have little knowledge of the particular shipment in question ...

[128] And further on:

> ... The fact that a carrier is informed by the forwarder of the name of the substance will not necessarily protect the forwarder, as if the contents are, for example, of a more potent quality than they are described, he will be liable for breach of warranty, and also presumably if the name given is so obscure that a mere carrier could not be expected to realise the potential danger involved or else the dangerous nature of the substance is not a matter of common knowledge. The forwarder is therefore placed in the position of requiring exact knowledge of the contents of every shipment he handles on behalf of a client, and must ensure that the documents accurately describe the contents. Accordingly, although in practice a forwarder will rely on his client, the shipper, to a considerable extent for such information, if the latter either deliberately or inadvertently misinforms him, the forwarder will still be liable for breach of the warranty ...

[129] From the foregoing therefore, it would appear that the forwarder in the instant case is also liable for breach of warranty. I have examined in detail above in relation to the shipper, the issue of whether the fact of declaring the goods as dangerous goods in itself is sufficient to exempt the forwarder from liability. I had concluded above that that was not the case. It is incumbent upon the shipper to warn or caution the carrier of the form of danger that could potentially arise, which was not done in this case. The potential danger of packing incompatible chemicals was not foreseen or made known to the carrier by either the shipper or the forwarder. Neither were the specific dangers of sodium chlorate as being potentially explosive and fire

prone made known to the carrier. The alleged placement of stickers on the pallets is wholly insufficient to meet the forwarder's duty owed to the carrier in respect of the carriage of dangerous goods. The contention that the forwarder could not possibly forewarn the carrier of matters of which he himself had no specific knowledge appears to be no defence or bar to his liability, as borne out by the cases examined above. In these circumstances the forwarder's liability for breach of both his express and implied warranty is clear.

Forwarding Agent – Is The Agent Liable Given That Liability Has Been Found Against The Principal?

[130] Although the forwarder's liability is clear and established on the facts of this case, there remains one other issue to be considered. In the instant case, unlike the case of the *Great Northern Railway v. LEP Transport Depository* (above) both the shipper and the forwarder have been made parties to the action as defendants. In that case only the forwarder was a defendant, not the consignor of the dangerous goods. In *Brass v. Maitland* (above) the parties were the carrier and the shipper or consignor, not the forwarder. Those cases must therefore be read in the context that only either the principal or the agent was sued, ie, either the shipper or the forwarder.

[131] Given the foregoing in the instant case, it would appear that both the principal and the agent have been sued. It remains to be considered whether the plaintiff here is entitled to judgment against the principal or the agent or both. In this context s. 186 of the Contracts Act 1950 allows for such joint and several liability. It provides:

> In cases where the agent is personally liable, a person dealing with him may hold either him or his principal or both of them, liable.

[132] The Bill of Lading No. PGM206 discloses that the carrier through its agent contracted with the shipper, Vitachem (M) Sdn Bhd and not the forwarder. In other words the primary contract was between the carrier and the principal rather than the forwarder.

[133] There was however a warranty given by the agent directly to the carrier, which could form the basis for the personal liability of the forwarder, thus allowing s. 186 to come into play. However the application of that section which imposes a joint and several liability on both principal and agent requires a careful consideration of the facts and circumstances of each case.

[134] On the facts of this case, as I have pointed out earlier both the shipper and the forwarder have been made parties. It is also evident from the evidence that transpired throughout the trial that the forwarder genuinely had no knowledge of comprehension of the precise potential dangers afforded by the cargo. That was a matter wholly within the knowledge of the shipper. The carrier was also fully aware at all material times that it was contracting with the shipper, Vitachem and not the forwarder as is borne out by the bill of lading and the very first contact which ensued between the shipper and the carrier's agent. Given the entirety of the circumstances, this appears to be a case where the principal is wholly liable for the consequences of the dangerous cargo that was shipped on board the vessel. As both shipper and forwarder are parties to this action, on the facts of the instant case it appears to this court that the proper conclusion to be drawn from the entirety of the evidence is that the shipper is wholly liable to the carrier for all damages suffered. The forwarder, as agent, is exempt from liability on the principle that where the principal is disclosed, liability accrues to him, rather than the agent. It might have been different if the shipper was not party to the action.

[135] Accordingly the plaintiff is entitled to judgment against the shipper for all losses and damage suffered by it as a consequence of the sinking of the vessel the Ing Hua Fu 9 on 18 October 2008, and I so order. I further order that damages are to be assessed. The plaintiff is awarded costs in the sum of RM80,000 which is to be borne by the defendants in equal part.